US 20120015000A1

(19) **United States**

(12) **Patent Application Publication**

(10) **Pub. No.: US 2012/0015000 A1**

(43) **Pub. Date: Jan. 19, 2012**

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(54) **MALARIA VACCINE OF SELF-ASSEMBLING POLYPEPTIDE NANOPARTICLES**

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(21) Appl. No.: **13/056,298**

(22) PCT Filed: **Jun. 29, 2009**

(86) PCT No.: **PCT/US09/49131**

§ 371 (c)(1),
(2), (4) Date: **Jan. 27, 2011**

Related U.S. Application Data

(60) Provisional application No. 61/076,963, filed on Jun. 30, 2008.

Publication Classification

(51) **Int. Cl.**

A61K 9/14	(2006.01)
A61P 33/06	(2006.01)
A61K 39/015	(2006.01)
A61P 37/04	(2006.01)
B82Y 5/00	(2011.01)

(52) **U.S. Cl.** **424/400**; 424/272.1; 424/191.1; 424/192.1; 977/773; 977/917

(57) **ABSTRACT**

The invention is directed to functionalized self-assembling polypeptide nanoparticles, and to methods of using these nanoparticles to vaccinate against malaria. The functionalized SAPN comprises a self-assembling core, and at least one epitope fused to the self-assembling core. The self-assembling core comprises a pentameric coiled-coil domain, a trimeric coiled-coil domain, and a linker. The linker joins the pentameric coiled-coil domain and the trimeric coiled-coil domain. Particular sequences of the epitopes used in the vaccine are from the *Plasmodium* parasite.